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April 2002

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Introduction

This paper compares unemployment insurance (UI) with unemployment assistance (UA) as alternative ways to protect workers against the effects of unemployment. While its scope is intended to be general, much of the discussion centers on Australia, and, to a lesser extent, the United States and Canada. The paper focuses on two topics: costs and labor market disincentives. It presents a framework for assessing the costs of unemployment protections and examines comparative data on costs. As will become obvious, the paper was written for practical not theoretical applications.

Two conclusions are reached. 1) Even though UA systems base eligibility on family income, the costs of such systems (per percentage point of the unemployment rate) are not necessarily lower than the costs of UI systems. Examples of high cost and low cost UI systems are identified as are examples of high cost and low cost UA systems. 2) Each system has to deal with serious labor market disincentive issues. Because they are less common, there has been less analysis of disincentive issues for UA systems. Australia is the largest country with UA, and its system of unemployment protection is examined in some detail.

I. UI and UA: Eligibility and Administration

Unemployment Insurance (UI) and Unemployment Assistance (UA) have primary objectives that are fundamentally different. Payments of UI benefits are intended to smooth income by replacing a portion of an eligible worker's lost wages attributable to unemployment. Payments of UA benefits are intended to eliminate or reduce poverty among low income families where unemployment occurs. Thus while both make payments

*Economist, The Urban Institute. This report was prepared under a contract with the World Bank for presentation at a World Bank seminar on Income Support Programs for the Unemployed, June 13, 2000. Helpful comments were received from Jocelyn Pech, Milan Vodopivec and an anonymous referee. Opinions expressed in the report are those of the author and do not necessarily represent the opinions of the World Bank or the Urban Institute.

occasioned by unemployment, UI goes to persons as a matter of right while UA is paid to only to families with unemployment whose income and assets fall below the thresholds specified by a means test.

Contrasts between beneficiaries of UI and UA are sharpest in situations where unemployment is of short duration. Recipients of UI can have high income since payments are made to partially offset the earnings losses experienced by the individual regardless of total family income. Because payments of UA, in contrast, are limited just to families whose income and assets satisfy a means test, the proportion of benefit payments that goes towards poverty reduction is generally higher than for UI payments.

This contrast (UI paid to the individual worker as a matter of right, UA paid to low income families) becomes less clearcut in situations of long term unemployment, i.e., duration of six months or longer. Because earnings typically constitute the bulk of family income, long term unemployment often causes a large reduction in family income. Thus many of the long term unemployed compensated under a UI program would also be compensated under a means tested UA program. Payments from both programs have similar poverty-reducing effects in such situations (until UI is exhausted).

From a macro perspective, UI and UA both make cash payments that respond strongly to cyclical developments. Both undertake activities of payments administration, e.g., decisions about eligibility and payment levels, and these activities are often similar. Internationally, UI is by far the more common of the two. This paper examines the costs of UA systems in four countries (Australia, New Zealand, Hong Kong and Estonia) which are the main UA systems at the present time.

A brief comment about the classification of unemployment protection systems may be appropriate. In several countries UI and UA both are present with UI available first for persons who qualify and UA then available for UI exhaustees and/or UA is available for those who do not qualify for UI. When both are present, periodic UA payments are typically lower than UI payments. Some countries also have a third tier of protection for the unemployed, an income-conditioned social assistance program with benefits payable after UA entitlements have been exhausted. Gornick (1999) describes the types of unemployment

Table 1. Eligibility for UI and UA Benefits

	UI Programs	UA Programs
Initial Entry Eligibility		
Requirements on the claimant		
1. Total or substantial unemployment	X	X
2. Substantial prior work experience	X	
3. Acceptable reason for separation	X	
4. Serve a waiting period	X	X
5. Low family income (and assets)		X
Administrative agency determinations		
1. Initial Entitlement, Yes-No	X	X
2. Level of periodic payment	X	X
3. Maximum potential duration	X	
4. Family Income Assessment		X
Continuing Eligibility		
Requirements on the claimant		
1. Able to work	X	X
2. Available to work	X	X
3. Active work search	X	X
4. Low family income (and assets)		X
Administrative agency oversight		
1. Work search	X	X
2. Suitable job offers	X	X
3. Disqualifying and/or deductible labor income, e.g., pensions	X	
4. Family income monitoring		X

protections offered in OECD countries. Section 1 of Schmid and Reissert (1996) provides a concise summary of UI and UA classification issues.

For this paper, “mixed” systems where UI is the initial port of entry for claimants are treated as UI systems. The paper is restricted to a comparison of UI (including mixed systems) with stand-alone UA as an alternative program for the unemployed.

Table 1 summarizes UI and UA activities in two broad areas of benefits administration: initial entry and continuing eligibility. For both areas, the table lists the requirements the claimant must satisfy and the decisions (determinations) made by program administrators. The table compares stylized UI and UA programs. If actual countries were identified, a more varied picture would be observed. Specific eligibility requirements and

administrative activities are identified with X's. Several rows have X's for both unemployment protections. Key differences between UI and UA are identified in the rows where only a single X is present.

Both protections make payments for partial unemployment as well as total unemployment,¹ and both specify an explicit waiting period between filing for benefits and receiving an initial payment. However, UI requires the claimant to have substantial previous work (signaled by a required threshold level of previous earnings (USA), weeks worked (Germany) or hours worked (Canada)) whereas UA can compensate those with little or no previous work experience. The reason for the job separation is important for UI eligibility while UA eligibility determinations focus heavily on family income and assets. Both programs make yes-no decisions about initial eligibility and the level of the periodic payment, but only UI specifies potential benefit duration at the time of initial entry into benefit status. A UA program may or may not limit potential duration. Potential duration is unlimited in Australia, but in Germany UA duration for many (all but UI exhaustees) is limited.

To continue in benefit status, the claimant must be able to work and available for work. Increasingly countries are requiring evidence of active work search as well. The latter requirement has various names, e.g., activation, reciprocal obligation or mutual obligation. While country practices regarding activation vary widely, merely waiting until a "suitable" job is offered is generally becoming less acceptable for maintaining continuing benefit eligibility. Enforcing work search requirements, judging the suitability of job offers and monitoring job refusals are administrative tasks common to UI and UA. Both programs also monitor the receipt of other income that may reduce entitlements. In UI, the other income is typically linked to previous work, e.g., severance pay and pension benefits. In contrast, all of family income is considered in administering the means test for UA. Monitoring family income is not simple, especially if a spouse works. If income monitoring is effective, changes in the spouse's earnings will alter the UA payment.

¹ Partial unemployment is usually more prevalent in UA programs but some paid work while in receipt of benefits is permitted by both UI and UA.

As noted, many countries offer both UI and UA with the latter available after the claimant exhausts UI and/or for those not eligible for UI at the onset of unemployment.² In these situations, the contrasts between UI and UA are smaller than suggested by Table 1. In effect, UI acts as a screen for some workers who later move into UA benefit status, but the transition to UA is made by only some of the long term unemployed, i.e., those with low income. Typically those who move from UI to UA are paid a lower periodic benefit while on UA.

A priori, UI and UA would be expected to have contrasting patterns of administrative costs. Of the two, UI pays more attention to the claimant's work history and to the circumstances of the job separation, since entitlement presumes a lengthy period of prior employment and an acceptable reason for the job separation.³ UA, on the other hand, focuses more on the current fact of unemployment and whether or not the claimant satisfies the means test. While UI will review certain types of income for possible offsets against UI payments (severance pay and pension benefits), UA has to make a complete assessment of income. Also, changes in income, e.g., the earnings of a spouse, need to be monitored to verify continuing UA eligibility. Both have to monitor job search and work availability as conditions for continuing eligibility.

Of the two systems, administrative costs would usually be higher under UA because of the costs of monitoring income (initial income assessments for new claims and income monitoring for ongoing claims). These costs would typically exceed the costs of UI initial eligibility determinations which are one-time costs per claim. The costs of monitoring availability and work search are likely to be similar in the two systems. While the administrative costs of UA are likely to be higher, no comparative cost data have been assembled to provide empirical support for this inference. This important issue would be an appropriate topic for a separate inquiry.

² See, for example, Charts 4.1-4.5 in Chapter 4 of OECD (1998). Tables 1 and 2 in Gornick (1999) show that of the 18 OECD countries with UI programs as of the mid 1990s, nine also had UA. The nine were Austria, Finland, France, Germany, Ireland, the Netherlands, Spain, Sweden, and the United Kingdom.

³ If a claimant quits a job there will usually be both an investigation of the reason for the quit and assessment of a quit penalty that precludes receipt of benefits for a number of weeks.

II. Disincentive Issues

The two forms of unemployment protection generate problems of labor market disincentives. However, the disincentive problems in the two systems are different.

Unemployment Insurance.

For unemployment insurance three disincentives can be identified. First, there are entry incentive effects. When the recipient work histories are studied, a bunching of claimants who satisfy minimum eligibility requirement is often found. Prior to 1997, Canada based eligibility on previous weeks of employment. Each year a bunching was observed at the minimum weeks threshold. Canada now uses hours worked to determine eligibility (from 420 to 700 depending on provincial unemployment), and a bunching at the minimum hours threshold is observed. The presence of a minimum eligibility threshold causes some to work more, some to work less and the net effect is not clear.

Second, there may be high replacement rates, i.e., high ratios of weekly benefits to weekly earnings. High replacement rates encourage longer spells in benefit status. Some of the added time is spent in job search and some in subsidized leisure. Research has not shown positive effects of prolonged search on wages and/or hours worked at reemployment. Estimates of the size of replacement rate effects differ, but the direction of the effect is clear. As claimants suffer a smaller income loss from unemployment (higher replacement rate), they prolong periods of reciprocity.

At least three factors that contribute to high replacement rates can be singled out. 1) Progressive benefit formulas provide for higher replacement among workers paid low wages.⁴ 2) Workers subject to high marginal income tax rates often experience high net wage loss replacement. 3) Paying dependents' allowances increases replacement rates. A compounding of these factors occurs among secondary workers with children who are members of high income families.

Third, long potential benefit duration can contribute to increases in actual benefit duration. While empirical estimates vary, each added week of potential duration adds from

⁴ In California, the weekly benefit for beneficiaries at the minimum is 65 percent of the average weekly wage while for high wage workers the replacement rate is 39 percent.

0.1 to 0.2 weeks to actual duration (studies from the United States).⁵ Larger effects of potential duration on actual duration may obtain in economies where exhaustion of UI benefits may be followed by receipt of UA benefits, e.g., Germany.

Unemployment duration has many determinants besides UI potential benefit duration. An increased pace of dislocation and permanent job loss has probably played a role in increased unemployment duration in the U.S.. Over the past two decades, several measures suggest that average unemployment duration has increased relative to earlier decades. In data from the monthly household labor force survey, median and mean duration (of incomplete spells) between the 1970s and 1990s both increased by more than 20 percent even though the average unemployment rate was higher in the 1970s. Data from UI programs in the U.S. show a lengthened duration in benefit status. The mean in UI data has been higher by about one week in the 1990s compared to the 1970s, and the benefit exhaustion rate has been higher by six to seven percentage points.⁶

The increase in unemployment duration in the U.S. during the 1980s and 1990s has occurred in a period when UI benefit generosity has, if anything, declined. Average replacement rates are now somewhat lower than in the late 1970s (details vary from state to state) while potential benefit duration has not increased. These time series patterns suggest that developments in unemployment duration in the U.S. have not been driven by developments in UI statutory provisions.

An important component of increased unemployment in Western Europe since the early 1970s has been a lengthening of unemployment duration. Several studies have examined the linkage between increased duration and the provisions of the UI systems (and other aspects of employment security) in these countries. Since long UI potential duration usually predated the increase in unemployment of the mid-1970s, the linkage between UI provisions and increased duration is not transparent. A recent investigation by Blanchard and Wolfers (2000) argues that an interaction between institutions, e.g., unemployment protection

⁵ Summaries of the U.S. empirical literature are given in Woodbury and Rubin (1997) and Vroman and Woodbury (1996). Katz and Meyer (1990) provide estimates of the effects of potential on actual duration. Atkinson and Micklewright (1991) and Ham, Svejnar and Terrell (1998) summarize international evidence. See also the analysis of determining social assistance support levels in Chapter 3 in OECD (1998).

⁶ See Chapter IV of Vroman (2001) for a summary of trends in unemployment duration in the U.S. from 1950 through 1999.

provisions such as the replacement rate and the maximum potential benefit duration, and macroeconomic shocks have combined to produce the higher unemployment and lengthened duration observed in many countries since the mid 1970s. Many researchers have found an effect of UI provisions on unemployment duration and additional research on the linkage can be anticipated.

Unemployment Assistance.

Because UA conditions eligibility on the family income of the unemployed individual, the static labor supply-income framework provides a useful point of departure for a discussion of disincentives. For a given family member, family income is given by:

$$(II-1) Y = X + W \cdot H \text{ where,}$$

Y = family income,

X = income from assets plus the earnings of all other family members,

W = the person's wage rate and

H = hours of work.

When family income falls below Y^* , the income guarantee, UA is paid to the family.⁷ Five aspects of the payment are noteworthy. 1) The guarantee (Y^*) may depend (positively) on family size. Thus for a given level of Y, larger families receive larger payments. 2) *Ceteris paribus*, a low wage rate will cause the UA payment to be larger. Low wage workers with both hours of unemployment and hours of employment, could receive a UA payment even with substantial hours worked. 3) *Ceteris paribus*, low hours worked will cause UA payments to be larger. Points 2) and 3) taken together imply that a large share of UA recipients could be working and receiving payments simultaneously.⁸ 4) *Ceteris paribus*, the largest payments are received by persons with zero earnings. If the guarantee level is set too high in an environment where people have substantial control over their unemployment, UA could encourage a lengthening of unemployment duration.

⁷ The asset test for UA eligibility is not explicitly treated in the present discussion.

⁸ Evidence from Australia, Hong Kong and New Zealand, three countries with UA systems, supports this point. In both Australia and New Zealand some 12 to 20 percent of UA recipients have earnings. Hong Kong compensates low wage workers through a program separate from its UA program. The number with low wages who receive a assistance have totaled about 20 percent of the combined total for recipients of UA plus low wage assistance. In Honk Kong, it is not known how may recipients of low wage assistance are working at shorter than preferred hours, i.e., experiencing partial unemployment.

5) Payment of UA benefits to an unemployed family member can influence labor supply decisions of other family members. Wives with unemployed husbands, for example, may be less likely to work since their earnings could either make the family totally ineligible for UA or reduce the size of the payment. Concern over this possible effect on family labor supply motivated changes in Australia's UA system in the mid-1990s. Part of the reason for Australia changing to a more individualized UA system in 1995 was to encourage work among other persons in families (often wives) where one member is unemployed. These changes are discussed in Section VII.

Empirical evidence supports the presumption of a labor supply effect on other family members. Section F in a survey article by Atkinson and Micklewright (1991) summarizes research from the 1980s based mainly on studies in the United Kingdom and Germany. Wives of unemployed men receiving UA benefits exhibit systematically lower participation rates than other wives. This evidence goes counter to the common presumption of an added worker effect, i.e., increased labor force participation, among wives of the unemployed. Giannelli and Micklewright (1995) note presumptive evidence in participation rate differences across several OECD countries and undertake a more detailed analysis of micro data from Germany. They find that UA benefits play an important part in explaining low participation rates among German wives. Terrell, Lubyova and Strapec (1996) found that the presence of an unemployed spouse lowered the hazard rate of exit to employment by 72 percent for woman and 82 percent for men in an analysis of data from the Czech Republic. Boeri (1997) reports similar findings in data from Poland.

Brief consideration of these five points suggests that serious disincentive issues could arise within UA programs. To minimize artificial prolongation of unemployment, the work search activity of UA recipients needs to be actively monitored.

Another disincentive issue could arise from worker-initiated job turnover, i.e., quits. Quit-to-unemployment flows cause family income to decline. Thus the reason for unemployment may have to be monitored by a UA program and entitlement limited to "acceptable" reasons for unemployment.

Youth unemployment may also present problems for a UA program. If new workers can collect UA without demonstrating a substantial job history, some youth might appear as

unemployed for purposes of collecting UA when they are not seriously searching for work or engaged in training. Again, this would present a monitoring problem for UA program administrators.

Because UA programs occur with much less frequency than UI programs, there has been less research on disincentive problems in UA. However, another body of literature is relevant, analyses of the work disincentives of welfare programs. That research has emphasized high effective marginal tax rates⁹ and poverty traps as impediments to work by the welfare population. Recent policy initiatives in the U.S. have made mandatory work requirements a prominent feature of a “reformed” welfare system. At a minimum, advocates of UA as a less costly program than UI would have to present cogent responses to questions about disincentive effects in a program that conditions eligibility upon family income. Section VII revisits UA disincentive questions in the context of the Australian system of unemployment protection.

III. The Cost of Unemployment Protection

Payments of unemployment protection benefits can be compared across countries using a common metric. This paper examines benefit payments as a percentage of total wages. It first derives a framework and then examines costs for selected countries in Sections IV, V and VI.

Benefit payments to the unemployed can be expressed as:

$$(III-1) \text{ TBen} = \text{AWBen} * \text{NBen} * 52 \text{ where,}$$

TBen = total annual benefit payments,

AWBen = average weekly benefits,

NBen = the average weekly number of beneficiaries and 52 converts weekly benefit payments to an annual benefit flow.

The right hand terms in (III-1) can be rewritten equivalently as:

$$(III-1a) \text{ TBen} = (\text{RRate} * \text{AWW}) * ((\text{NBen} / \text{Unemp}) * (\text{LF} * \text{URate})) * 52 \text{ where}$$

AWW = the average weekly wage,

RRate = the replacement rate (average weekly benefits as a ratio to AWW),

⁹ High effective marginal tax rates arise from three sources: 1) the phase-out rate of UA benefits when family income exceeds the maximum allowed for the receipt of full UA benefits, 2) the marginal payroll tax rate on earnings and 3) the marginal income tax rate for the recipient’s family income. A review of the U.S. literature, prior to welfare reform of 1996, is given by Moffitt (1992).

Unemp = average weekly number unemployed,
 LF = the labor force and
 URate = the unemployment rate (unemployment as a proportion of the labor force, also commonly termed the TUR, shorthand for the total unemployment rate).

Note that the replacement rate in (III-1a) measures benefit payments relative to the economy-wide average weekly wage. Since the incidence of unemployment is higher among low skilled workers, the average weekly wage of beneficiaries will be lower than the overall average weekly wage. Thus RRate in (III-1a) could be expressed as the replacement rate for beneficiaries times the ratio of their weekly wage to the overall weekly wage. In U.S. data, the weekly wage of UI beneficiaries ranges from 80 to 90 percent of the overall weekly wage. This alternative representation would have the advantage of showing an average replacement rate more directly relevant to labor supply decisions of beneficiaries.

A convenient metric for examining the costs of unemployment benefit protections is annual wage and salary payments. This can be expressed as:

(III-2) $\text{Wages} = \text{Emp} * \text{AWW} * 52$ where,

Wages = total annual wages or the wage bill,

Emp = annual average employment and

AWW = the average weekly wage.

This expression for the annual wage bill can be rewritten as:

(III-2a) $\text{Wages} = \text{LF} * (1 - \text{URate}) * \text{AWW} * 52$ where the terms in (III-2a) have already been introduced.

Dividing (III-1a) by (III-2a) yields an expression for unemployment benefit costs measured as a fraction of the wage bill:

(III-3) $\text{TBen/Wages} = \text{RRate} * (\text{NBen/Unemp}) * \text{URate} / (1 - \text{URate})$.

This benefit cost rate can be expressed as a fraction or as a percentage. In the graphical exposition of Section IV below, B (= TBen/Wages) is shown as a percentage.

The left hand side of expression (III-3) is the cost of unemployment benefits expressed as a fraction (or percentage) of the wage bill. This cost rate has three determinants: 1) the replacement rate, 2) the share of the unemployed who are compensated and 3) the unemployment rate. The latter is largely a macro phenomenon that reflects the overall functioning of the economy. The replacement rate and the share who receive benefits, in contrast, are influenced by policy choices made by a country. Statutory provisions and

administrative procedures influence both payment levels and the share of the unemployed who receive benefits.

Up to this point, note that the discussion of unemployment benefit costs has not distinguished UI from UA payments. Regardless of the kind of unemployment protection offered by a country, total payments can be represented as in expression (III-3). Because the expression is generic, it can be helpful in making comparisons between UI and UA and showing the cost of each relative to the total wage bill.

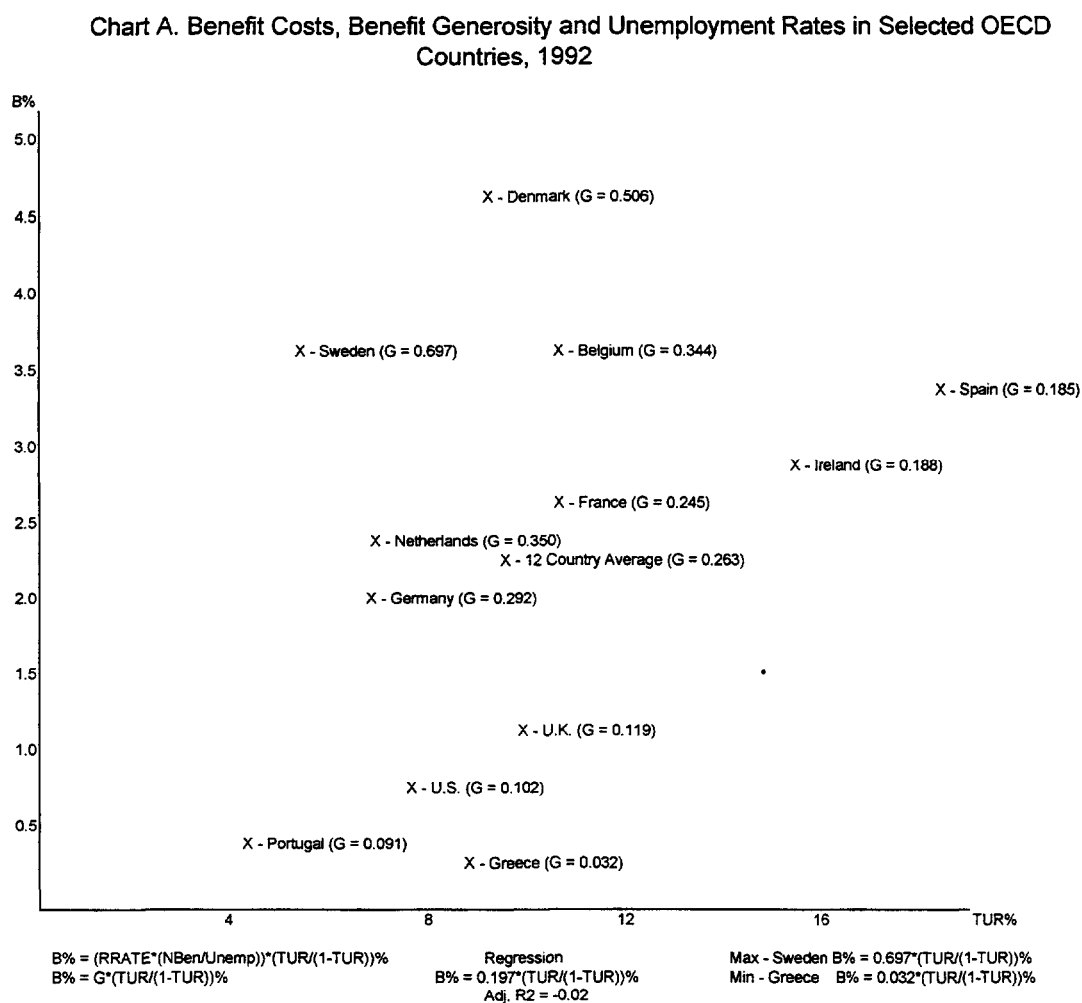
One other feature of expression (III-3) should also be pointed out. The ratio (NBen/Unemp) is a summary measure of benefit availability, but NBen is not nested within Unemp. Since both UI and UA can make payments to persons with earnings, NBen is not a subset of Unemp. In the United States, for example, almost 10 percent of weeks compensated by the UI program goes to persons with earnings who receive a so-called partial unemployment benefit. In Australia, nearly one fifth of UA recipients have earnings in the same period when benefits are being received, and, as will be seen, NBen has exceeded Unemp in some years. Thus the (NBen/Unemp) ratio is best thought of as a macro indicator of benefit availability where some recipients may be employed.¹⁰

In providing unemployment protections, a country may make explicit or implicit decisions regarding the replacement rate and the share of the unemployed to be compensated. The product of RRate and (NBen/Unemp) determines how costly unemployment protection is per percentage point in the unemployment rate. This product can be termed a generosity index (G). i.e., $G = \text{RRate} * (\text{NBen}/\text{Unemp})$.

Several combinations of RRate and (NBen/Unemp) can combine to yield a given G. For example, a G of 0.25 can arise when both RRate and (NBen/Unemp) equal 0.50 or when RRate equals 0.25 while (NBen/Unemp) equals 1.00. Countries have wide choice in setting the two components that combine to determine G. Thus the U.K. and the U.S. have similar levels of G (See Chart A in Section IV) but RRate is much higher in the U.S while (NBen/Unemp) is much higher in the U.K.. If a country wanted to make a cost-neutral

¹⁰ The usual convention in labor force surveys is to count people as unemployed only if they have been looking for work but had no hours worked during the reference week. In other words, people with both hours worked and hours of unemployment during the reference week are counted as employed. Persons in these situations are described as underemployed. Note that underemployment is a broader concept that can also be applied to persons working full time but at a skill level below that for which they were trained.

change in its unemployment program, this could be accomplished by changing RRate but modifying (NBen/Unemp) in the opposite direction.



Regardless of the system used to provide unemployment protection, UI or UA, the costs of benefit payments per percentage point of unemployment can be characterized with G, the generosity index. Empirical examples from UI systems are explored in Section IV while examples from UA systems are examined in Section VI.

The coefficient G also has macroeconomic significance. It is a gradient that shows how much the cost of unemployment protections increases when the unemployment rate changes. Individual countries may select a smaller or larger G depending upon factors such

as affordability and the size of perceived disincentive effects. As will be seen in Sections IV and VI, a wide variety of choices have, in fact, been made.

IV. Some Empirical Examples

To make the preceding discussion more concrete, this section displays graphs that illustrate the costs of unemployment protections. The emphasis is on the costs of UI programs. All charts plot benefits as a percent of wages against the unemployment rate.

Twelve Countries in 1992.

Chart A displays data from twelve countries in 1992. The data are derived from a study by Schmid and Reissert (1996).¹¹ Their analysis combined UI and UA payments in countries like France and Germany where both protections are present. The constituent elements of G , i.e., $RRate$ and $(NBen/Unemp)$, are also examined in their analysis, but are not emphasized here.

Three factors stand out in Chart A. 1) Costs and unemployment rates vary widely across the twelve countries. Three countries have cost rates ($B\%$) that exceed 3.5 percent of wages while two have cost rates below 0.5 percent of wages. 2) Of the high income countries, the U.S. and the U.K. rank near the bottom in terms of absolute cost levels ($B\%$) and both are low in terms of G , the generosity index. The average gradient linking $B\%$ to the unemployment rate across the twelve countries is roughly 0.20-0.25 while the gradients in the U.S and the U.K. are closer to 0.10. Third, and probably most surprising, there is no association between the unemployment rate and costs ($B\%$) for these twelve countries. The adjusted R^2 in a homogeneous regression across the twelve is -0.02.¹² In 1992 variation in replacement rates and the share of the unemployed who were compensated were so wide that they overwhelmed the association that would be expected between the unemployment rate and the cost of providing unemployment protections.

The variation across countries is startling. Arrays from the origin for Sweden and Denmark suggest values of G of 0.697 and 0.506 respectively. The corresponding estimate

¹¹ Their paper expresses unemployment benefit costs as a percent of GDP. These have been converted to an estimated percent of wages by assuming wages represent 70 percent of GDP.

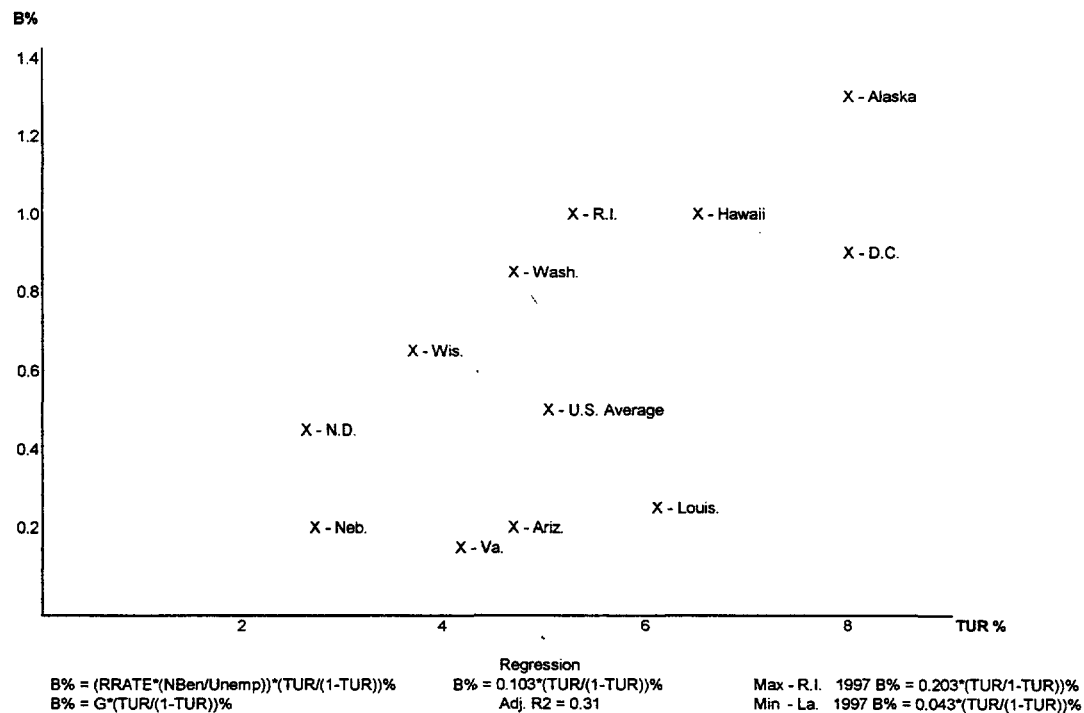
¹² The regressions shown at the bottom of all charts follow equation III-3 of the text. TUR is shorthand for the unemployment rate. Similar results obtain when the unemployment rate enters linearly.

for Greece is 0.032. The slope of the highest gradient (Sweden) exceeds that of the lowest gradient (Greece) by a factor of about 22.

U.S. States in 1997.

The UI program in the U.S. is administered by individual states that determine the key benefit provisions. While there is federal (national) oversight of state activities, the federal performance standards relate primarily to the timeliness of administrative determinations. There are no federal standards affecting benefit provisions such as the minimum benefit, maximum benefit or the statutory replacement rate. As a consequence,

Chart B. Benefit Costs, Benefit Generosity and Unemployment Rates in the U.S and in Selected States, 1997



benefit generosity varies widely across individual states.

Chart B provides a snapshot of UI costs across the states in 1997. Data are shown for just eleven states from among the 53 programs.¹³ Included states were selected to display the

¹³ Programs are present in fifty states plus the District of Columbia, Puerto Rico and the Virgin Islands.

two with the lowest unemployment rates (North Dakota and Nebraska), the two with the highest unemployment rates (Alaska and the District of Columbia) as well as the states with the highest and lowest G's. In 1997, only three states (Alaska, Hawaii and Rhode Island) had UI benefit costs that exceeded 1.00 percent of wages. Several states had costs that fell below 0.25 percent of wages.

Benefit generosity as indicated by the coefficient G is highly varied in the U.S.. The gradient G that links the unemployment rate to the benefit cost rate was highest in states like Rhode Island, Washington, Wisconsin, Alaska and North Dakota (slopes of roughly 0.18-0.20) while those with the lowest benefit cost gradients include Louisiana, Virginia and Arizona (slopes of roughly 0.04-0.06). From the most generous to the least generous states, the incremental cost of UI benefits per percentage point of unemployment rate displayed a range of more than four to one. When the sources interstate variation in UI costs are examined, variation in the share of the unemployed who are compensated is much more important than variation in the replacement rate.¹⁴

Across 51 state UI programs underlying Chart B, the average 1997 value for the coefficient G as determined by a regression was 0.103, less than half the twelve country average as displayed earlier in Chart A. Chart B provides support for the earlier observation that the UI program in the U.S. has much lower costs per percentage point of unemployment than the average for the OECD countries as shown in Chart A.

The Evolution of UI Costs in the U.S..

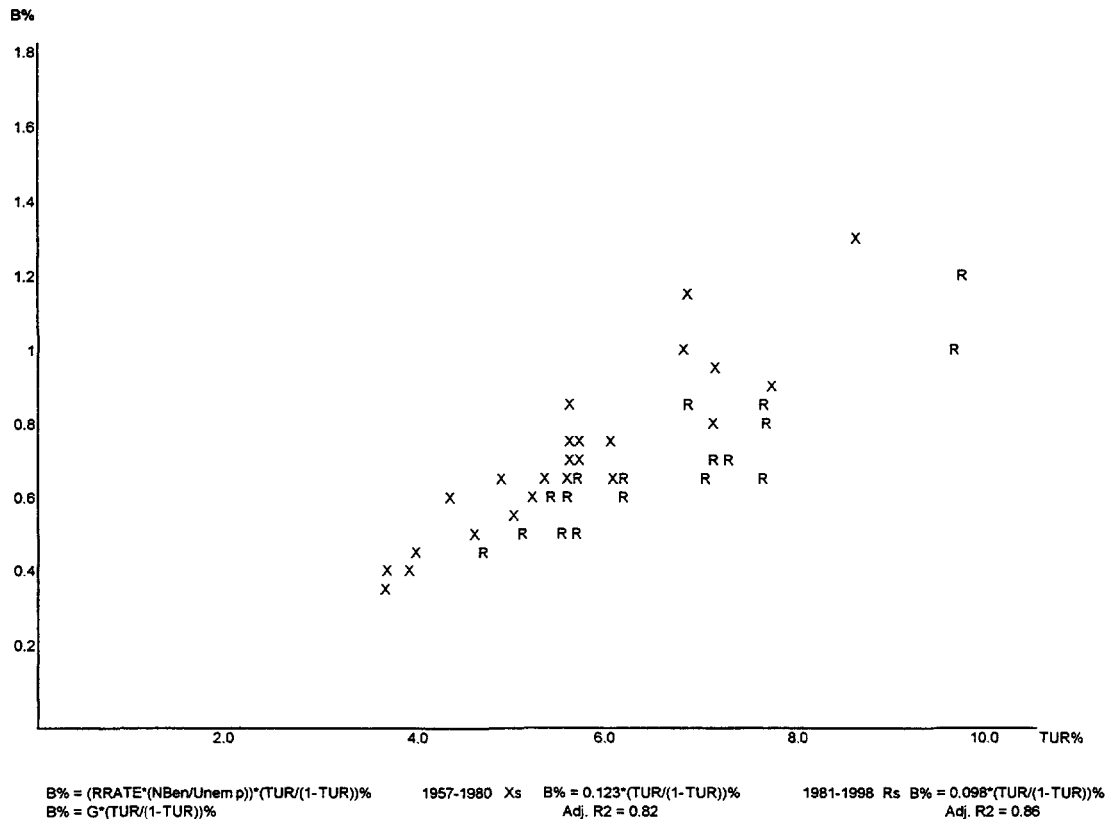
Chart C summarizes the evolution of UI costs in the U.S. between 1957 and 1998. For the full 42 years, the gradient linking benefits as a percent of wages (B%) to the unemployment rate as determined by a regression was 0.103. For the two sub-periods 1957-1980 and 1981-1998, however, the slopes were 0.123 and 0.098 respectively.

Chart C distinguishes the data points from the two sub-periods: Xs for the earlier years (to 1980) and Rs for the later years. The predominance of Rs towards the bottom of the envelope of data points is apparent. A formal test for equality of coefficients for the two

¹⁴ Relative variability can be summarized with a coefficient of variation (CV), the ratio of the standard deviation to the mean of a variable. Across 51 states in 1997 the CV for the replacement rate was 0.150 whereas the CV for the ratio of UI beneficiaries to unemployment was 0.337.

periods was rejected at the 0.01 level. Literature on reciprocity in the U.S., e.g., Burtless and Saks (1985), Corson and Nicholson (1988) and Vroman (1991), has consistently shown a decrease in reciprocity in the early 1980s. Chart C shows that decreased reciprocity is reflected in UI costs as well.

Chart C. Benefit Costs, Benefit Generosity and Unemployment Rates in the U.S., 1957 to 1998

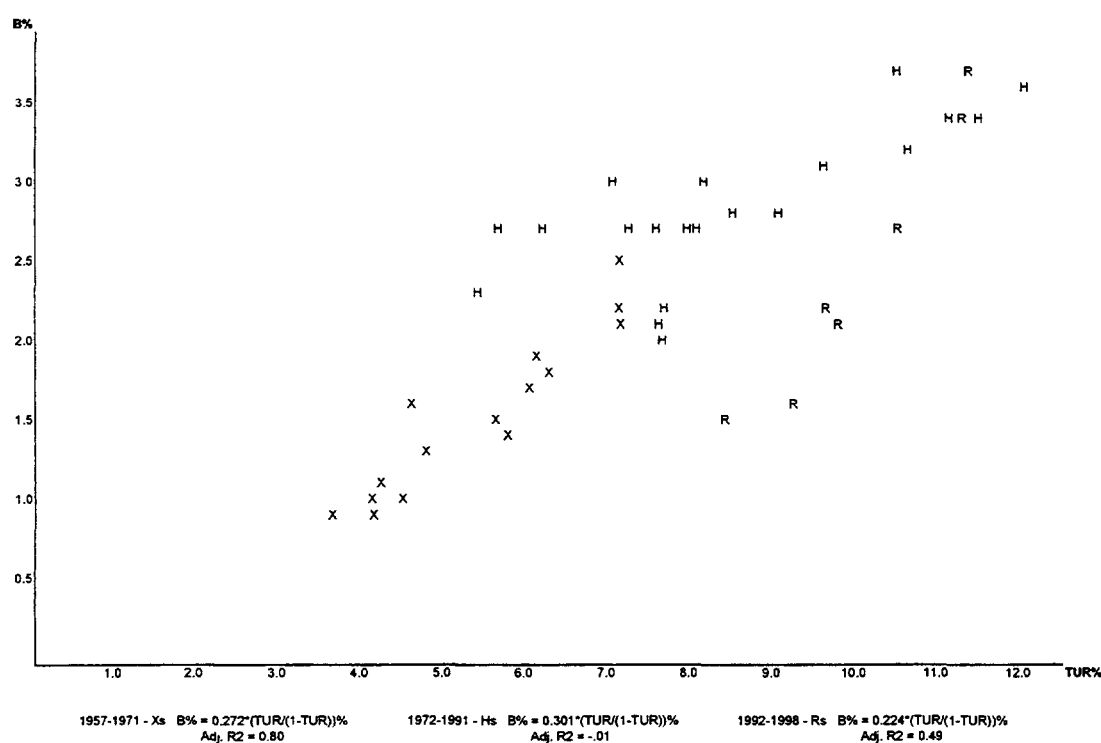


The Evolution of UI Costs in Canada

Canada's UI program has undergone several major changes since the 1970s that have affected costs. In the early 1970s the program was liberalized, including a major increase in benefit levels. The changes persisted throughout the 1970s and the 1980s, a period when the Canadian unemployment rate increased noticeably relative to the rate in the U.S.. During the 1990s, in contrast, Canada enacted a variety of reforms that have reduced in both the replacement rate and reciprocity. Two analyses of the changes in Canada's program are provided by Sargent (1998) and Lin (1998).

The effects of the changes on UI costs are apparent in Chart D which spans the 42 years from 1957 to 1998.¹⁵ Three sub-periods are distinguished: 1957-1971, 1972-1991 and 1992-1998. Data points from 1972-1991 (Hs) generally fall towards the top of the data cluster while those from 1992-1998 (Rs) generally fall below the cluster. Systematic contrasts in costs for each sub-period are shown by the slopes of the relationship between the unemployment rate and the benefit cost rate (B%). Between 1957 and 1971 the average slope was 0.272. The slope increased to 0.301 between 1972 and 1991 and then fell to 0.224 between 1992 and 1998.

Chart D. Benefit Costs, Benefit Generosity and Unemployment Rates in Canada, 1957 to 1998



During the 1990s Canada instituted several changes to restrict UI eligibility and weekly benefits. Statutory replacement rates were lowered (for quitters in 1990 and the basic replacement rate was reduced from 60 to 57 percent in 1993, to 55 percent in 1994 and further reduced in 1996), disqualifications for quits were increased (to a fixed 12 weeks in

¹⁵ In some instances unemployed persons may also receive income-conditioned payments from the social assistance programs administered by Canadian provinces. Barrett and Craig (1998). Their analysis for British Columbia in 19XX suggests that SA to the unemployed adds about Y percent to reciprocity.

1990 and an indefinite disqualification in 1993), entry requirements were raised (from 8 weeks to 10 in 1990, to 12 in 1994 and then hours-based eligibility in 1997), potential benefit duration was reduced (in 1990, 1994 and 1996) and a system of person-based experience rating was instituted.¹⁶ On balance, the changes have reduced reciprocity more than the replacement rate. At the start of the 1990s, the (NBen/Unemp) ratio fell into the 0.70-0.80 range but during 1994-1998 it averaged 0.43.

Even with the recent restrictions in Canadian UI, note that the regression line for the 1990s has a slope that is slightly higher than the slope reported in Chart A, 0.224 versus 0.197. Thus the U.S. and Canada present vivid contrasts regarding the costs of their UI programs. Even after Canada's enactment of major restrictions in the 1990s, its program continues to be more than twice as expensive as the U.S. program per percentage point in the unemployment rate.

V. The Cost of Unemployment Assistance in Australia

Australia has administered a program of unemployment assistance (UA) for over 50 years. Of the countries where UA is the primary program for unemployment protection, Australia is the largest.¹⁷ Its UA program has undergone several changes and continues to be subject to periodic modifications.

Australia provides a full set of social protections through pensions, allowances and other kinds of support.¹⁸ As a rule, pension payments are larger than allowances. Over the past two decades, age pensions and UA allowances respectively have averaged about 25 percent and 20 percent of the average male wage. Age pensions, the largest of the individual programs, are received by over 80 percent of those aged 65 and older. Traditionally, pensions have been provided as federally-supported payments. In the future, public pensions are to be supplemented by superannuation payments from individual accounts financed through

¹⁶ See Table 1 in Sargent (1998).

¹⁷ Four countries that offer UA as the primary unemployment protection program are (in descending size, i.e., 1996 population in millions): Australia (18), Hong Kong (6), New Zealand (4) and Estonia (1). Except for Estonia, the others are high income countries (1996 per capita GDP above US\$16,000).

¹⁸ Table 1 in Whiteford (2000) lists five kinds of pensions (age, disability support, wife of pensioner, carer and parenting payments), eight kinds of allowances (newstart (for unemployment), partner, parenting payment, youth allowance widow, newstart (short term sickness), mature age and special benefits), two kinds of "other programs" (child care assistance and public housing) and eleven kinds of family payments, allowances and supplements.

payroll-based mandatory employer contributions and voluntary employee contributions. For persons of working age, there are invalidity (permanent disability) payments, payments for short term sickness and work injuries, mature age (pre-retirement) allowances, parenting allowances, support payments for training and higher education and rental subsidies.

The philosophy behind the social protection programs is to provide means tested benefits. Except for the superannuation scheme (a comparatively recent innovation) and workers' compensation, the other programs condition payments on the levels of family income and family assets (exempting family residences that are owned). Because of its heavy reliance on means testing, Australia is unique within OECD countries in targeting payments to the low income families and individuals. Roughly 60 percent of cash benefits are paid to those in the bottom three deciles of the income distribution.¹⁹

Also unusual is Australia's reliance on general revenues to finance social payments. Most OECD countries rely mainly on payroll taxes. Because most payments are income-conditioned in Australia, issues arise in structuring payments so that work incentives are appropriate. Effective marginal tax rates are often high for individuals who contemplate working more to increase their earnings and income.²⁰

During the past 40 years certain evolutionary changes have occurred in Australia leading to heightened concerns about family income disparities, labor market outcomes and the structure of the social protection system. Five developments have been particularly noteworthy. 1) Among two parent families, there has been sizeable reduction in the share with one working adult and simultaneous growth in the share with two adult earners and the share with zero adult earners. Growth of the latter group has prompted a public discussion about "work-poor" families and the exclusion of some from the economic mainstream. 2) Much of the growth in employment has been in part-time jobs. Roughly one job in four is part-time with about 40 percent of women working part-time. 3) Economic recoveries have been characterized by stickiness in unemployment. Unemployment rates have declined

¹⁹ Comparative data for 13 OECD countries in 1995 show the overall share of transfers going to the bottom three deciles ranged from 20.8 percent in Italy to Australia's 58.0 percent with the second highest percentage being 53.5 percent in France. Conversely the top three deciles in Australia received 7.4 percent of transfers, the lowest percentage across the same 13 countries. See Figures 7 and 8 in Whiteford (2000).

²⁰ Clear discussions of effective marginal tax rates in Australia are provided in Appendix 4 of Interim Report of the Reference Group on Welfare Reform (2000) and in Section 2.4 in Whiteford (2000).

during recoveries but never to levels experienced prior to 1975. 4) There has been a noticeable growth in the share of the working age adult population (ages 15 to 64) who receive income support payments. The percentage was about 5 percent in the late 1960s, but has varied between 20 to 24 percent since 1991. 5) The average duration of unemployment, of UA payments and of some other social protection payments have all increased substantially. In recent years, the median duration of unemployment as measured both in the labor force survey and in UA beneficiary data has hovered around one year. These developments should be kept in mind as the experiences of Australia's UA program are reviewed.

Table 2 displays annual fiscal year data on unemployment and UA benefits. Between 1960 and 1974 the estimates of total unemployment ranged between 73,500 and 153,600 representing from 1.6 percent to 2.7 percent of the labor force. Since 1991, in contrast, the annual averages have ranged between 710,000 and 938,000, and unemployment rates have ranged from 7.7 percent to 11.0 percent.

During the years covered by Table 2, the number of UA beneficiaries has grown even more rapidly than unemployment. Consequently the (NumBen/Unemp) ratio, which had ranged from 0.15 to 0.38 between 1960 and 1974, has exceeded 0.60 in every year since 1976 and has exceeded 1.00 in the years since 1995. In a typical week during the most recent five years there have been as many UA recipients as the number unemployed reported in the labor force survey.

Data on UA recipients for recent years indicate that about 20 percent are working and also receiving payments. This suggests that about 80 percent of the unemployed as counted in the labor force survey receive UA payments. What seems to make this possible is the strong negative effect of long term unemployment on family income. Among those with long term unemployment, it seems that family income is typically low enough to satisfy the means test for UA eligibility. What appears to be a paradox, i.e., most of the unemployed collect UA benefits even though eligibility is means tested, is apparently resolved by the fact that so many of the unemployed are long-term.

Estimates of average weekly benefits and average weekly wages also appear in Table 2. UA benefit levels were raised substantially in the early 1970s. Average payments tripled

Table 2. The Cost of Unemployment Protection in Australia, 1959 to 1999

Fiscal Year	Labor Force	Unemp	U Rate TUR%	NumBen Ann Avg	NumBen/ Unemp	Total UA Benefits	Weekly Benefits	Weekly Wage	Rep. Rate	G	B%
1959						12					
1960	4109.5	68.0	1.7			9					
1961	4198.5	88.5	2.1			9					
1962	4282.0	116.0	2.7			30					
1963	4381.0	104.0	2.4	39.7	0.382	21	10	41	0.254	0.097	0.230
1964	4524.5	85.0	1.9	25.9	0.305	13	10	43	0.234	0.071	0.134
1965	4715.0	73.5	1.6	13.7	0.187	7	10	46	0.208	0.039	0.061
1966	4851.5	77.0	1.6	14.9	0.194	8	10	48	0.210	0.041	0.065
1967	4962.2	90.8	1.8	20.7	0.227	11	10	51	0.204	0.046	0.085
1968	5084.1	95.4	1.9	21.5	0.226	11	10	54	0.186	0.042	0.079
1969	5204.6	92.8	1.8	17.8	0.192	9	10	58	0.173	0.033	0.059
1970	5379.0	93.7	1.7	13.2	0.141	9	13	63	0.206	0.029	0.051
1971	5563.3	97.1	1.7	15.0	0.154	11	14	69	0.200	0.031	0.054
1972	5666.5	126.6	2.2	29.1	0.230	26	17	76	0.225	0.052	0.115
1973	5834.1	153.6	2.6	39.6	0.258	47	23	83	0.272	0.070	0.185
1974	5990.3	127.3	2.1	34.1	0.268	58	33	96	0.341	0.091	0.194
1975	6103.1	247.1	4.0	116.6	0.472	252	42	120	0.345	0.163	0.659
1976	6230.9	301.6	4.8	191.7	0.636	514	52	138	0.375	0.238	1.152
1977	6290.6	325.1	5.2	216.9	0.667	618	55	155	0.354	0.236	1.221
1978	6400.9	389.6	6.1	265.8	0.682	794	57	170	0.338	0.231	1.405
1979	6464.9	408.7	6.3	306.2	0.749	910	57	183	0.313	0.234	1.481
1980	6600.7	407.6	6.2	306.3	0.752	925	58	200	0.290	0.218	1.345
1981	6757.1	395.9	5.9	310.0	0.783	996	62	227	0.272	0.213	1.247
1982	6863.4	423.5	6.2	332.0	0.784	1224	71	263	0.270	0.212	1.306
1983	6953.8	624.9	9.0	540.2	0.864	2249	80	292	0.274	0.237	2.130
1984	7067.6	680.1	9.6	619.6	0.911	2912	90	317	0.285	0.260	2.502
1985	7198.7	619.4	8.6	581.7	0.939	2984	99	338	0.291	0.274	2.355
1986	7451.4	591.5	7.9	559.2	0.946	3122	107	359	0.299	0.283	2.248
1987	7679.5	635.1	8.3	574.4	0.904	3454	116	381	0.304	0.275	2.272
1988	7866.8	610.5	7.8	502.5	0.823	3375	129	404	0.320	0.263	2.043
1989	8076.3	536.0	6.6	429.4	0.801	3136	140	431	0.326	0.261	1.732
1990	8346.3	515.3	6.2	385.0	0.747	3068	153	460	0.333	0.249	1.538
1991	8498.8	710.3	8.4	535.9	0.755	4561	164	487	0.336	0.254	2.121
1992	8526.0	882.0	10.3	771.4	0.875	6736	168	501	0.335	0.293	3.034
1993	8539.0	938.0	11.0	883.0	0.941	7492	163	511	0.319	0.301	3.302
1994	8672.0	916.8	10.6	905.7	0.988	7598	161	526	0.307	0.303	3.205
1995	8848.3	800.5	9.0	847.0	1.058	7061	160	544	0.295	0.312	2.819
1996	9084.3	768.5	8.5	812.8	1.058	5812	137	557	0.247	0.261	2.208
1997	9187.0	799.3	8.7	811.4	1.015	6207	147	574	0.256	0.260	2.267
1998	9228.0	766.8	8.3	794.0	1.036	5916	143	592	0.242	0.251	2.082
1999	9363.8	725.3	7.7			5771					

Source: Department of Family and Community Services (FaCS), Australian Bureau of Statistics and OECD. Labor force, unemployment and beneficiaries in thousands. Total benefits in millions. Benefit data exclude mature age allowances from 1994 and payments to dependent partners after 1995. Estimates of the labor force and unemployment for 1960-1964 based on OECD data. Beneficiaries in 1994-98 estimated from a regression of the annual average on the simple average of June data for current and past fiscal year.

between 1972 and 1976 and replacement rates increased. Since the mid 1980s, the maximum payment has been indexed to the CPI with semi-annual adjustments. Prior to 1995, weekly benefits also included an allowance for dependent partners. Typically these allowances were included in from one third to one half of payments to unemployed male UA beneficiaries.

Note in Table 2 that between 1986 and 1994 the estimated replacement rates fall into the 0.30-0.34 range. As part of a reform package effective in 1995, payments to dependent partners of unemployed individuals were discontinued. Note that the replacement rates decline after 1994 and hover around 0.25 from 1996 onward. This decrease reflects the discontinuation of payments to dependent partners. Between June 30, 1994 and June 30, 1995 the number of unemployed recipients decreased by about 75,000, but payments to 218,000 dependent partners also ceased. Thus the total recipients paid by the UA program decreased by nearly 300,000.²¹ Total payments of UA benefits declined by about \$1.25 billion between fiscal years 1995 and 1996.

Much of this decline in payments was merely a relabeling phenomenon. Dependent spouses, mainly women, often were eligible to collect a partner allowance where eligibility depended on the unemployed spouse receiving UA benefits.

The change in the treatment of dependent partners was part of a reform package that emphasized increased “individualization” of benefit payments to the unemployed. This will be discussed in later paragraphs.

The final columns of Table 2 display estimates of G and B%. G, the generosity index, fell below 0.10 in all years before 1975, but has equaled or exceeded 0.25 in all years since 1984. Note that the index declined noticeably after 1995, a change that parallels the decrease in the replacement rate.²² Because the (NumBen/Unemp) ratio has hovered around 1.0 in recent years, however, this high ratio has prevented G from declining to lower levels despite the reduction in the replacement rate. Australia’s generosity index has been consistently higher than the average for the 12 countries depicted in Chart A even though it conditions payments on income and assets.

²¹ These statements about beneficiary counts are based on data not shown in Table 2. The beneficiary counts in Table 2 include just unemployed individuals, not dependent partners.

²² Again, much of the change was more apparent than real as spouse benefits often became partner allowances with little or no change in the amount paid to the family.

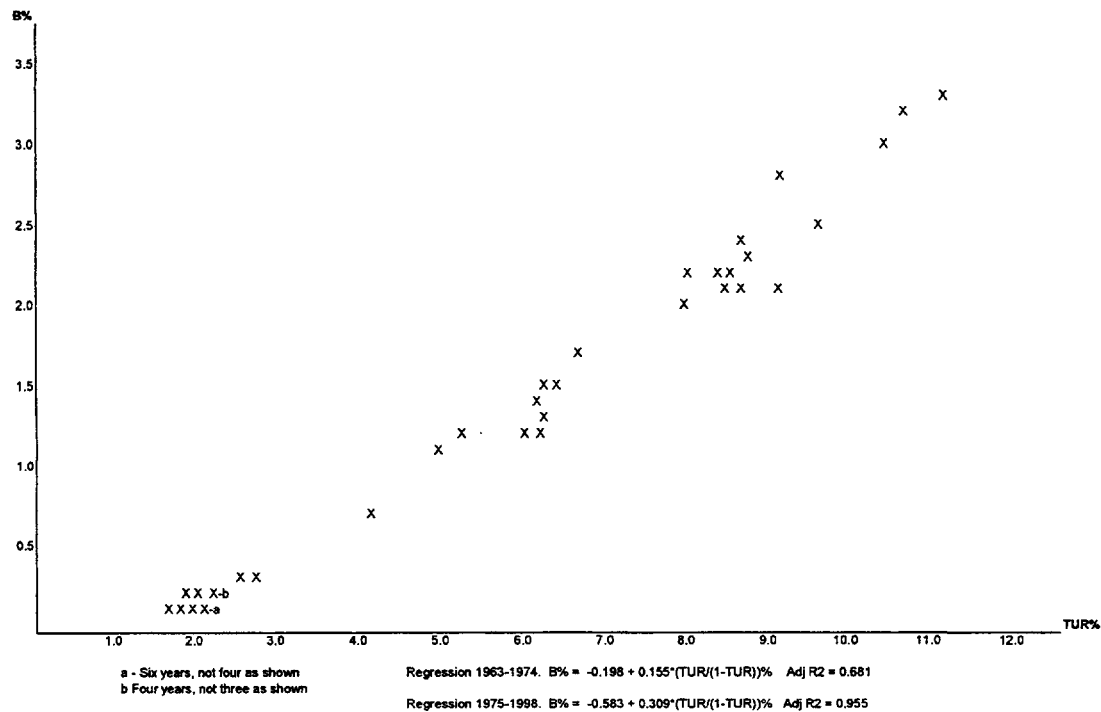
The combination of high unemployment rates and a reasonably high generosity index have yielded a high cost of unemployment protection in Australia in recent years. Unemployment benefits as a percent of wages (B%) have averaged 2.37 percent since 1983 and fell below two percent of wages in just three years (1989, 1990 and 1999 (not shown)). This cost rate was lower than Canada's for the same period (2.82 percent) but more than three times the U.S. rate (0.65 percent). Operating a means tested UA system of unemployment protection is not necessarily less expensive than a UI system.²³

Chart E summarizes Australian experiences since 1963 by plotting benefit costs (B%) against the unemployment rate. The historical record falls into two periods, the twelve years from 1963 to 1974 and the years after 1974.²⁴ The association between benefit costs and the unemployment rate was highly significant in regressions fitted for both sub-periods. Note that the slope during 1975-1998 was twice the slope during 1963-1974 (0.309 versus 0.155). The larger slope reflects both the higher replacement rate and the higher share of the unemployed receiving benefits during 1975-1998. The regression for these later years also indicates that Australian costs exceeded the average for the twelve countries displayed in Chart A.

²³ A cost comparison between Australia and Canada should also include costs of social assistance benefits paid to the unemployed in Canada. Unfortunately no hard data on this was found. Welfare is administered by the provinces in Canada and the provincial systems are quite varied. Many welfare recipients in Canada are able to work but little is known about their former or current receipt of UI benefits. See Barrett and Cragg for analysis of welfare receipt in British Columbia. Including social assistance to the unemployed would make the Canada-Australia differential larger than suggested in the text. For the U.S., social assistance to the unemployed is not important so the Australia-U.S. comparison is cleaner.

²⁴ The earlier of the two periods could be extended backward prior to 1963 with outcomes similar to those depicted for 1963-1974. For earlier years, however, data limitations become more serious. The labor force survey was started in 1960 but covered only urban areas in early years. There are also problems in measuring the annual average number of beneficiaries and the average weekly wage.

Chart E. Benefit Costs, Benefit Generosity and Unemployment Rates in Australia, 1963 to 1998



If a country were to consider adopting an Australian-type UA system how might it be done at a lower cost? Three options seem pertinent. 1) Have payments set at a lower percentage of average wages, e.g., 20 percent rather than the 25 percent shown for 1996-1998 in Table 2. 2) Eliminate (or sharply reduce) availability of benefits to the part-time employed. 3) Devote more resources to income verification activities. The savings from adopting the first option are probably the easiest to estimate accurately. However, the importance of appropriate income verification in a UA program (option 3) makes this a priority consideration as well.

Local circumstances in a country considering the establishment of a UA system would undoubtedly be crucial in structuring a new system.

VI. The Cost of Unemployment Assistance in Four Countries

As noted at the start of Section V, Australia is one of four countries that rely on income-conditioned unemployment assistance (UA) benefits to compensate the unemployed.

The other three are New Zealand, Hong Kong and Estonia.²⁵ Of the four, Australia has the largest population, roughly 18 million persons, whereas the combined populations of the other three sum to about 11 million.

Although this paper focuses most attention on Australia, it is instructive to examine the cost of unemployment protection for all four countries. As with UI systems, these four UA systems exhibit highly varied costs. Australia and New Zealand operate programs with reasonably high costs while Hong Kong and Estonia have low cost systems. The latter two achieve low costs by compensating a low proportion of the unemployed. Additionally, Estonia makes very low payments to beneficiaries.

While program details vary across these countries, all four systems pay flat benefits to unemployed persons who satisfy a means test with additional payments for dependents. The presence of dependents in New Zealand and Hong Kong raises the level of the UA payment whereas in Estonia having a dependent lengthens the maximum duration of benefits. The New Zealand system is like Australia's in that some beneficiaries are only partially unemployed. Hong Kong compensates the partially unemployed with a separate assistance payment for those low earnings.²⁶

Table 3 provides summary information on the four UA programs. The left-hand side shows summaries for four decades starting with the 1960s while the right-hand side gives details for individual years during the 1990s. Panel A displays unemployment rates. An upward trend by decade is obvious for both Australia and New Zealand as is Hong Kong's generally lower unemployment rate. The increase in Estonia between 1991 and 1995 is also apparent.

The reciprocity proportions in Panel B show vivid contrasts. During the 1980s and 1990s the proportions in Australia and New Zealand have exceeded 0.75 during most years, and for both countries proportions have exceeded 1.0 in several years. During the 1990s the reciprocity proportion in New Zealand has been considerably higher than in Australia, i.e., decade averages of 1.12 and 0.94 respectively.

²⁵ The four countries were identified from a review of U.S. Social Security Administration (1999).

²⁶ In recent years the number of recipients of low earnings allowances has averaged from one fifth to one fourth of UA recipients.

Table 3. Cost of Unemployment Protection in Four Countries with Unemployment Assistance

	1960s	1970s	1980s	1990s	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Panel A. Unemployment Rate - Percent of Labor Force														
Australia	1.9	3.7	7.6	8.9	6.2	8.4	10.3	11.0	10.6	9.0	8.5	8.7	8.3	7.7
New Zealand	0.2	0.5	4.2	8.0	7.1	9.1	10.6	10.0	9.0	7.0	6.1	6.4	7.1	7.3
Hong Kong - a	-	3.5	3.0	2.5	1.2	1.5	1.8	1.9	1.9	2.5	3.2	2.4	3.0	5.9
Estonia - b	-	-	-	7.8	-	1.5	3.7	6.5	7.6	9.7	10.0	9.7	9.9	11.7
Panel B. Unemployment Assistance Beneficiaries as a Proportion of the Unemployed														
Australia - c	0.24	0.43	0.85	0.94	0.75	0.76	0.88	0.94	0.99	1.06	1.06	1.02	1.04	
New Zealand - d	0.39	0.83	0.78	1.12	1.16	1.00	0.94	1.03	1.09	1.23	1.26	1.18	1.12	1.14
Hong Kong- e	-	-	0.04	0.08	0.05	0.04	0.04	0.05	0.06	0.06	0.08	0.17	0.17	0.13
Estonia - f	-	-	-	0.26	-	-	-	-	0.30	0.20	0.24	0.26	0.25	0.31
Panel C. Replacement Rate, Average Benefits as a Proportion of Average Wages														
Australia - c	0.21	0.30	0.29	0.30	0.33	0.34	0.34	0.32	0.31	0.30	0.25	0.26	0.24	
New Zealand - d	0.41	0.54	0.40	0.32	0.36	0.35	0.32	0.24	0.32	0.30	0.31	0.32	0.32	
Hong Kong- e	-	-	0.34	0.41	0.29	0.28	0.29	0.29	0.39	0.43	0.47	0.51	0.52	0.58
Estonia - f	-	-	-	0.10	-	-	-	0.17	0.10	0.08	0.07	0.07	0.09	0.09
Panel D. Generosity Index - G = Proportion Compensated * Replacement Rate														
Australia - c	0.053	0.138	0.250	0.276	0.249	0.254	0.293	0.301	0.303	0.312	0.261	0.260	0.251	
New Zealand - d	0.172	0.446	0.312	0.351	0.419	0.350	0.300	0.246	0.348	0.370	0.389	0.376	0.356	
Hong Kong- e	-	-	0.014	0.039	0.015	0.011	0.011	0.014	0.024	0.026	0.036	0.086	0.090	0.074
Estonia - f	-	-	-	0.022	-	-	-	-	0.032	0.015	0.019	0.018	0.018	0.028
Panel E. Unemployment Benefits as a Percent of Wages - B%														
Australia - c	0.10	0.65	1.92	2.51	1.54	2.12	3.03	3.30	3.20	2.82	2.21	2.27	2.08	
New Zealand - d	0.07	0.17	1.34	2.76	2.99	3.17	3.17	2.48	3.12	2.59	2.38	2.39	2.52	
Hong Kong- e	-	-	0.03	0.12	0.02	0.02	0.02	0.03	0.04	0.06	0.12	0.20	0.27	0.44
Estonia - f	-	-	-	0.21	-	-	-	-	0.24	0.15	0.19	0.17	0.17	0.32

Source: Australia - Table 2; New Zealand - Annual Yearbook, various issues; Hong Kong - Census and Statistics Department; Estonia - Table 2 and 10 of Vodopivec, Worgotter and Raju (2001). Selected data adjustments made by the author. Fiscal year data for Australia, New Zealand and Hong Kong. a - from 1977, b - from 1991, c - from 1963, d - from 1966, e - from 1986, f - from 1993 or 1994 as indicated.

Observe that reciprocity rates are much lower in Hong Kong and Estonia. Their highest reciprocity proportions during the 1990s were 0.17 and 0.31 respectively. The decade averages for the 1990s were 0.08 for Hong Kong and 0.26 for Estonia.²⁷ Note also that the reciprocity proportion did increase toward the end of the 1990s in Hong Kong while no trend is apparent in Estonia.

Panel C shows that average replacement rates in Australia and New Zealand were similar during the 1990s at 0.30 and 0.32 respectively. In prior decades New Zealand had higher replacement rates, averages of 0.41, 0.54 and 0.40. Hong Kong had an average

²⁷ The reciprocity rate in Hong Kong is increased only modestly when payments to families with low earnings are also counted. The average for the 1990s was 0.11, only modestly higher than the 0.08 shown in Table 3.

replacement rate of 0.41 during the 1990s, and it clearly was much higher from 1994 than in earlier years.

Replacement rates in Estonia are consistently low in all years from 1993. The decade average was 0.10, and between 1994 and 1999 annual replacement rates varied in the narrow range between 0.07 and 0.10. With such low replacement rates it seems clear the UA recipients in Estonia experience serious income reductions and economic hardship while in receipt of these payments.

Panel D shows generosity indices for the four countries. Australia and New Zealand with average indices of 0.276 and 0.351 for the 1990s would be above-average if included with the group of 12 OECD countries previously examined in Chart A. Hong Kong and Estonia, in contrast, would lie towards the very bottom of Chart A. Their average generosity indices for the 1990s were 0.039 and 0.022. These would be most similar to that of Greece in Chart A (0.032) and less than half of the indices for Portugal, the U.K. and the U.S., the other three countries with low generosity indices in Chart A.

For Hong Kong note that the generosity index increased during the 1990s, and it averaged 0.083 during 1997-1999. The increase reflects increases in both the reciprocity proportion and the replacement rate. Both were much higher during 1997-1999 than earlier in the decade. For these three years the generosity index in Hong Kong was only slightly lower than the indices for Portugal, the U.K and the U.S. in Chart A.

Panel E translates the combined effects of unemployment rates and generosity indices into costs as a percent of total wages. For Australia and New Zealand unemployment protection costs averaged respectively 2.51 and 2.76 percent of wages during the 1990s. These cost rates for both countries stand in sharp contrast to the 1960s when the decade averages were 0.10 and 0.07 percent of wages.

For Hong Kong and Estonia, the costs of unemployment protection respectively averaged 0.12 and 0.21 percent of wages during the 1990s. Both averages were less than on tenth of the averages for Australia and New Zealand. The low costs in Estonia seem especially surprising given the high average unemployment rate of 7.8 percent for the

decade. For Hong Kong, costs as a percent of wages increased sharply after 1994. Three factors contributed to the increase: an increase in the unemployment rate, an increase in the proportion compensated and an increase in the replacement rate. All three were much higher in 1999 than in 1990.

The principal conclusion of this section is straightforward. A country that provides unemployment protection using income-conditioned UA payments may experience high or low or intermediate costs. Means testing per-se does not ensure that a UA system will be inexpensive. For both Australia and New Zealand, reciprocity rates are very high while replacement rates are not especially high. However, their recent cost experiences are not unusual when placed within the wider context of OECD countries.

For both Hong Kong and Estonia, UA system costs are low. Estonia achieves low costs through a combination of a low reciprocity rate and a low replacement rate. Hong Kong also has a low reciprocity rate, but its replacement rate is actually quite high. Towards the end of the 1990s the cost of unemployment protection increased sharply in Hong Kong as unemployment increased, the reciprocity rate increased and the replacement rate increased. Despite increases in all three factors, unemployment protection in Hong Kong still fell below 0.5 percent of wages in 1999.

This analysis did not explore the institutional reasons that cause low UA costs in Hong Kong and Estonia versus high costs in Australia and New Zealand. However the next section returns the focus to Australia to review disincentive issues and the evolution of policy.

The final conclusion of this section is that UI and UA as systems of unemployment protection may experience high costs, low costs or intermediate costs. It is not necessarily the case that UA systems are less expensive than UI systems.

VII. Disincentives and Policy Changes in Australia

Disincentives and the phenomenon of long duration in benefit status have been recognized as problems in Australia for many years. Several changes in the terms of benefit eligibility have been made but problems persist.

Structure of the benefit phase-out

The earliest form of the means test on family income featured a dollar for dollar reduction in benefits when family income exceeded the guarantee threshold. For age pensions, this was modified in 1969 with the introduction of a tapered means test coupled with a free area.²⁸ Some earnings were allowed with no reduction in pensions (the free area) followed by a 50 percent reduction rate when earnings exceeded the amount allowed by the free area. Subsequent modifications over the next decade widened the free area, eliminated the test for those 75 and older, then for those 70-74 and then eliminated the asset element of the means test.²⁹ Most of the latter changes were reversed between 1978 and 1985, but key features were retained, e.g., a free area and a phase-out with an effective tax (benefit reduction) rate of 50 percent.

Means testing of UA benefits followed a similar history but with changes occurring later. The dollar-for-dollar benefit reduction was in place through 1979. The free area and the 50 percent reduction followed by a 100 percent reduction were introduced in 1980 and several more modifications occurred between 1982 and 1994.³⁰ Throughout this period the UA income test was based on family income.

Major changes were then instituted in 1995. 1) The basis of entitlement to UA benefits was changed from family income to individual income (each person's earnings plus their share of other countable income). 2) Payments to dependent partners of the unemployed were ended, but replaced by partner allowances in most situations. 3) The range of the 100 percent phase-out was replaced with a 70 percent phase-out range (while the free zone and the 50 percent phase-out were retained, although the size of the free zone was reduced). Thus as benefits were being reduced due to increased earnings, the phase-out was restructured so that income (earnings plus UA benefits) would always be higher as a result of higher earnings.

The change to "individualization" was made in order to improve incentives for combining work with receipt of UA benefits, particularly among women who often work

²⁸ While there is an assets test, it is applied to restrict payments relatively infrequently, in situations where there are high assets but low income. See footnote 4 in Whiteford (2000).

²⁹ One description of these developments is given in Section 2.4 in Whiteford (2000).

³⁰ A concise description of these changes is given in Section 2.1 and Table 2.1 in Warburton, et.al. (1999).

part-time. Previously, working women were frequently precluded from UA benefits while unemployed due to earnings and other income of their spouse. While it became more likely that an unemployed wife could now collect UA benefits, individualization did not mean that husbands' earnings became irrelevant in eligibility determinations. Husbands' earnings equal to or exceeding 60-62 percent of national average earnings would preclude an unemployed wife from eligibility.³¹ The net effect of the change in many situations was to allow receipt of UA benefits and to encourage part-time work (due to the lower, 70 percent, phase-out), particularly at higher levels of earnings. One analysis using data for the two and a half years following the changeover suggested this effect did take place. (Chapters 4, 5 and 6 of Warburton, et.al., (1999)).

Means testing pension benefits

Illustrative of incentive problems in Australia's means tested system is the imperfect interface between publicly provided pension benefits and superannuation benefits. Pension benefits continue to be means tested. Other pension reforms will gradually raise the retirement age, but the applicable ages for eligibility currently differ (and will continue to differ) between pension benefits and superannuation benefits which can be accessed earlier. As a result, people have been withdrawing superannuation amounts as lump sums with the effect of lowering countable income in later years when public pension entitlements are calculated. Legislative and administrative actions have been undertaken to address this problem, but occurrences are common. An example of an unanticipated use of superannuation lump sums is removing monies to finance current consumption activities such as foreign vacations.

Research has not reached a consensus on the size of this phenomenon or what share of early lump sum withdrawals are going to pre-retirement consumption. There is consensus that a problem exists and policy actions have occurred. Specific actions to "tighten up" have included raising the minimum age for withdrawals (the preservation age), basing the test for severe financial hardship (a permissible reason for early withdrawals) on more objective criteria and enacting stricter requirements for the preservation of future contributions. There

³¹ The threshold on spouses' allowable weekly earnings in August 1999 was roughly \$500 compared to a national average for full-time workers of about \$800.

have also been proposals to limit the form of withdrawals to annuities, i.e., not permitting lump sum withdrawals.³²

Early withdrawal of superannuation monies partially subverts an original rationale for establishing superannuation accounts. A major purpose was to reduce expenditures on government pensions in the long run as superannuation annuities would be part of income counted against pension entitlements. If superannuation assets are dissipated early, long run savings on pension outlays are reduced. This problem is illustrative of behavioral responses that can occur in a payment system that conditions eligibility on income. To the extent that clients can control the timing of their income, their behavior can offset the intended effect of the policy.³³

A similar problem exists in administration of UA payments to the unemployed. Individuals can reduce earnings by “appearing” to be unemployed. Lower income raises income-conditioned entitlements. Hence, it is important to monitor recipients to ensure that work search activities represent good faith efforts to secure reemployment.

Job search and mutual obligation

Australia has undertaken a variety of initiatives to promote activation among beneficiaries of pensions and allowances and specifically among the unemployed. Mutual obligation is the term used to describe situations where the recipient’s right to cash payments (or other support) is acknowledged, but the receipt of payments is conditioned on the discharge a reciprocal obligation. Registration with the employment service and engaging in active job search are two obligations placed on the unemployed.

The scope of activities falling under mutual obligation is now quite wide, and it differs according to the type of benefit or allowance being received. Persons in receipt of benefits may (depending on the type of payment): search for work, undertake training, do unpaid community work, care for the young, engage in physical rehabilitation or undertake life skills training.

³² See Chapter 6 and especially Section 6.2 in Ingles (1998).

³³ Ross (1997) has observed that the means test of the public pension system discourages savings while the superannuation system is intended to encourage savings for retirement. Permitting lump sum withdrawals works against the intent of the superannuation system.

For the unemployed, there have been several changes in the administration of the work search requirement. There has been a continuing requirement that the UA recipient must be unemployed (able to work, available for work and actively seeking work) and registered as a job seeker.

Until 1982 the agency with primary day-to-day responsibility for administering the work test was the Commonwealth Employment Service (CES). The CES, part of the Employment Department, acted as an agent for the Department of Social Security (DSS) which administered the payment of UA cash benefits. In 1982 DSS assumed direct responsibility for work test administration. Responsibility was returned to CES in 1991 though DSS had a partial role in 1993-1994.

Reforms of 1995 altered the administrative structure for the delivery of benefits and services to the unemployed. A new administrative entity, Centrelink, was established in December 1996 to deliver of social security entitlements. Centrelink was also to perform a gateway function for the unemployed, i.e., registering people as unemployed and assessing their degree of labor market disadvantage. Other labor market services previously discharged by CES such as job matching and case management became the responsibility of Job Network, a semi-privatized “market” with government, non-profit and for-profit organizations competing to provide employment services.³⁴ Registration and job search continue to be required within this revised service delivery structure.

The approach to “activate” the unemployed has also undergone several modifications. Prior to the large increase in unemployment of the mid 1970s, emphasis was placed mainly on the acceptance of suitable work. During these years, the number of vacancies listed with the CES represented some one third to one half of UA registrants. Thus CES could offer jobs to a meaningful share of registrants. This changed when unemployment-vacancy ratios moved from roughly 2.0 upwards to 20.0 and higher in the mid 1970s. In line with this development, there were changes in the definition of suitable work which could be refused while retaining an entitlement to benefits. Guidelines were broadened in 1976 to require (after 12 weeks) acceptance of work in line with local job

³⁴ In October 1998 the Department of Family and Community Services (FaCS, the entity that subsumed functions previously discharged by the Department of Health and Family Services) was created. Its responsibilities included child care, disability and housing programs, i.e., benefits and services to families.

availability even if it meant a reduction in wages and/or status. By 1989, this definition had been further modified to require acceptance of casual, part-time or temporary work.³⁵

Work search requirements also have become more formal with increased emphasis on evidence of active search. Changes effective in 1991 required both the short-term and the long-term unemployed to satisfy an activity test. For those unemployed less than twelve months (receiving a payment termed a Job Search Allowance) the activity test included active work search or participation in labor market or vocational training approved by the Department of Employment, Education and Training (DEET) as likely to improve job prospects or the effectiveness of job search. For the long term unemployed (12 or more months in benefit status, payments termed a Newstart Allowance) there was a requirement to participate in an activity agreement intended to secure reemployment but tailored to individual circumstances. Several possible activities were to be considered, e.g., work search activity acceptable for the Job Search recipients plus other activities including paid work experience and activities proposed by the person, e.g., unpaid volunteer work. One intention of this change was to reallocate CES administrative resources to target the long-term segment of the unemployment pool.

Further changes in the activity test became effective in 1995. Increased emphasis was placed on early identification of likely long term UA recipients. The attempt to identify long term recipients was perhaps influenced by new administrative practices in the U.S. that “profile” likely UI exhaustees. Also, a wider range of acceptable search activities could be considered. These changes have not had a noticeable effect on measured duration which, if anything, has been higher since their implementation.³⁶

Older unemployed workers have generally not faced the activity test requirements applied to younger workers. Those aged at least 50 but younger than retirement age frequently have been exempted from active search and have been allowed a wider range of acceptable alternatives to searching for paid work. The mature age allowance, paid since 1995, goes to dislocated workers aged 60 and older and effectively functions as an early retirement benefit. Older workers consistently exhibit the longest average durations of all age

³⁵ This evolution prior to 1995 is described in Chapter 7 of Department of Social Security (1995)

³⁶ Medians computed by the author based on data for June 30th averaged from 7.9 to 8.9 months between 1992 and 1996, but increased to 11.9 months in 1997 and to 14.0 months in 1998.

groups. In recent years, percentages as high as 40 percent of older workers who leave UA benefit status have exited to become recipients of invalidity (disability) pensions. Relative to UA benefits, these payments have higher guarantees and carry no obligation for active job search. In 1995, disability pensions were received by 15 percent of men aged 55-59 and by 25 percent of men aged 60-64.

Looking back over the past thirty years, it seems that activation has not been very successful in Australia, at least as reflected in macro labor market indicators. Unemployment duration (in both the labor force survey and in UA beneficiary data) remained stubbornly high during the economic recoveries of the 1980s and the 1990s. While the goal of the changes in the activity test has been to speed the movement of people from unemployment to employment, achievement of the goal has proved elusive.

Consumption smoothing

The structure of the means test on income ensures that effective marginal tax rates (EMTRs) on earnings will be high for those with earnings that exceed the free area. There have been several Australian studies of EMTRs that confirm this observation. Thus most of added earnings above the free area (typically 60 to 90 percent) is offset by UA benefit reductions (and increased income taxes). Two recent analyses of EMTRs are given in Appendix 4 of Interim Report of the Reference Group on Welfare Reform (2000) and in Section 2.4 in Whiteford (2000). These emphasize the combined effects of phase-outs of income-conditioned transfers and phase-ins of taxes occurring at different income levels and even causing notches, i.e., areas where EMTRs exceed 100 percent.

The phenomenon of high EMTRs is a direct consequence of the basic structure of the income test on benefit payments with a 50 percent (then a 70 percent) phase-out above a modest free area. While this structure for the means test ensures a high degree of targeting to those with low income, it also (through high EMTRs) produces substitution effects that operate against increased labor supply among those with low income.

High EMTRs also imply that when income falls due to unemployment, those receiving UA payments will typically experience high replacement of lost earnings. The high replacement rates provided by UA in Australia imply that the program accomplishes a high degree of consumption smoothing. With replacement rates that typically fall into the

0.60-0.90 range, many workers experiencing unemployment are able to maintain consumption spending at quite high levels. Given the structure of earnings by gender, age and skill, the effective degree of income replacement is undoubtedly higher on average for young workers, women and those with low skills, groups that typically have below-average wages and earnings. Illustrative replacement rates reported in Table 4.1 and Figures 4.3 and 4.4 in Appendix 4 of Interim Report of the Reference Group on Welfare Reform (2000) vividly demonstrate this point.

Summary

Analyses of programs intended to provide income support and/or reduce poverty identify three objectives in structuring benefit payments, objectives that to some extent are in conflict with each other: 1) a high degree of targeting, i.e., making payments mainly to those who are poor, 2) low total budget costs and 3) having good labor market incentives. Of these three objectives, the Australian system of means testing does well on two: 1) most monies are directed towards the bottom of the income distribution and 2) budget costs are kept relatively low due to the high phase-out of benefits as income rises. However, for the third objective, i.e., good labor supply incentives, it has serious problems. To address the problems within the existing, i.e., means tested, structure would be expensive since it would require reducing the taper rate (reducing EMTRs), but this would move entitlements much further up the income distribution and yield a much more expensive system of social protection.

One element of public discussions in Australia is to consider an earnings supplement like an Earned Income Tax Credit (EITC) as in United States or some other form of wage subsidy for those with low wage rates and/or hours. The attractive feature of an EITC is that it raises the marginal reward to work at low hours rather than reducing it as under the present free area cum taper rate in Australia. In effect, the EITC over the lowest range of earnings causes the substitution effect to induce greater hours of work, not fewer hours as at present. In a world where there are no free lunches, however, such a change, if implemented on a scale sufficient to induce changes in behavior, would also have macro budget implications that would need to be considered. Since Australia has a long tradition of reliance on income-conditioning to structure social protection payments, there could be wide receptivity to an EITC proposal.

VIII. Conclusions

This paper has compared UI and UA as alternative programs for providing compensation to the unemployed. The comparison has not been comprehensive, focusing mainly on the cost of benefits and labor market disincentives. Much of the discussion of UA has drawn upon the experiences of one country, Australia.

Three areas important for a comprehensive comparison of UI with UA were not addressed in detail. 1) The comparative costs of program administration were not examined. Typically these costs are incurred at more than one administrative entity and at each entity costs of unemployment benefits administration are but one component of organizational costs. As noted in Section VII, the day-to-day administration of UA in Australia is shared between Centrelink (benefit payments administration) and Job Network (job search and reemployment administration) under the overall aegis of FaCS. The administrative costs of these activities were not estimated. 2) The degree of consumption smoothing provided by UA was not investigated in detail. Instead, inferences were drawn in Section VII based on analyses of effective marginal tax rates (EMTRs). Typically, replacement rates are quite high in Australia, i.e., falling into the 0.60-0.90 range. Based on these estimated replacement rates, the degree of consumption smoothing in Australia is much higher than in the U.S. and probably higher than in Canada. The degree of consumption smoothing in the other three UA countries was not explicitly addressed although it is clear that very little consumption smoothing takes place in Estonia. 3) No attention was given to issues of program financing, for either UI or UA. The operational assumption for the paper has been that issues on the benefit side of UI and UA programs can be addressed without the need to address funding issues. Note that the most generous UI program examined here (Sweden) relies primarily appropriations from the general budget which is also the funding source for the two most generous UA programs (Australia and New Zealand). However three other generous UI systems are financed mainly by payroll taxes (Belgium, Denmark and the Netherlands).

Perhaps the most interesting finding of the paper relates to UA program costs. Section VI examined cost data from the four countries where UA is the primary income support for the unemployed. Two of the four countries, Australia and New Zealand, have had costs in recent years that can be described as somewhat above-average when compared to the costs of

UI programs for a sample of 12 OECD countries. The other two UA systems, in Hong Kong and Estonia, have exhibited costs similar to the costs of the lowest-cost UI system examined here (Greece).

Thus the conclusion about comparative costs of UA versus UI is “it depends.” One would need to specify exact statutory and administrative provisions of the UA and UI system being compared before making inferences about their comparative costs. A comparison between UA in Australia and UI in Canada suggests the Australian is the more expensive of the two systems. Compared to the U.S., a low cost UI system, Australia’s UA program is roughly three times more expensive per percentage point of unemployment. However, the costs of Hong Kong’s UA system per percentage point of unemployment is below that of eleven of the twelve UI systems included in Chart A.

The finding that UA has high costs in Australia points to a seeming paradox. Australia conditions eligibility on income but still most of the unemployed, especially the long term unemployed, receive UA benefits. While the level of support payments is modest (about one fourth of the average weekly wage), many recipients experience long term periods in benefit status. A lower income guarantee probably would result in shorter spells of unemployment. Two factors could be contributing to this outcome. 1) A number of Australians could be prolonging their spells of unemployment to satisfy the income eligibility conditions for UA. This could suggest there is a degree of control over unemployment duration for at least some recipients (moral hazard). 2) Some claimants may be able to misrepresent their income levels in order to satisfy UA income eligibility criteria. This could suggest that FaCS needs to invest more administrative resources in income verification activities. Both factors could be contributing to a situation where the number of fully unemployed UA recipients represents about 80 percent of all persons measured as unemployed in the Australian labor force survey.

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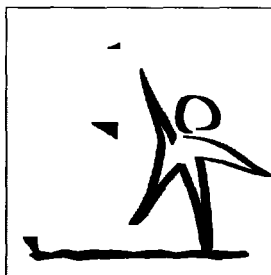
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Summary Findings

This report examines the two most common programs that provide cash compensation to unemployed workers: unemployment insurance (UI) and unemployment assistance (UA). It compares them in two areas: costs and labor market disincentives. The cost analysis first derives a framework for examining costs, and then applies the framework to both UI and UA programs. Costs are estimated for several countries, but particular attention is given to Australia, Canada and the United States. A major finding is that UA is not necessarily less costly than UI even though UA conditions eligibility on household income and assets. One must examine the specifics of a country's situation to make a cost comparison. The analysis of labor market disincentive effects reviews much of the relevant literature. It notes that the disincentive effects are present for both UI and UA but that the disincentives are different for the two types of unemployment protection programs.

HUMAN DEVELOPMENT NETWORK

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The World Bank Employment Policy Primer aims to provide a comprehensive, up-to-date resource on labor market policy issues. This resource is based on the lessons from research and operational experience in designing and implementing labor market policies and interventions. The primer series includes two types of products: primer papers that present, in some detail, new research results or up-to-date assessments of the literature and experience and primer notes that summarize "best practice" on policy-relevant topics in a very concise and accessible manner. Together, these products are intended to provide a practical tool-kit for people who make or are concerned about employment policy. A flexible format with products published both on our website and in published form ensures that the latest developments are reflected.

The Employment Policy Primer, including all papers and notes, can be accessed at the labor markets website at www.worldbank.org/labormarkets. For free copies of this paper, please contact the Social Protection Advisory Service, The World Bank, 1818 H St., N.W., MSN 8-802, Washington, D.C. 20433-0011. Telephone (202) 458-5267. Fax (202) 614-0471. E-mail: socialprotection@worldbank.org.